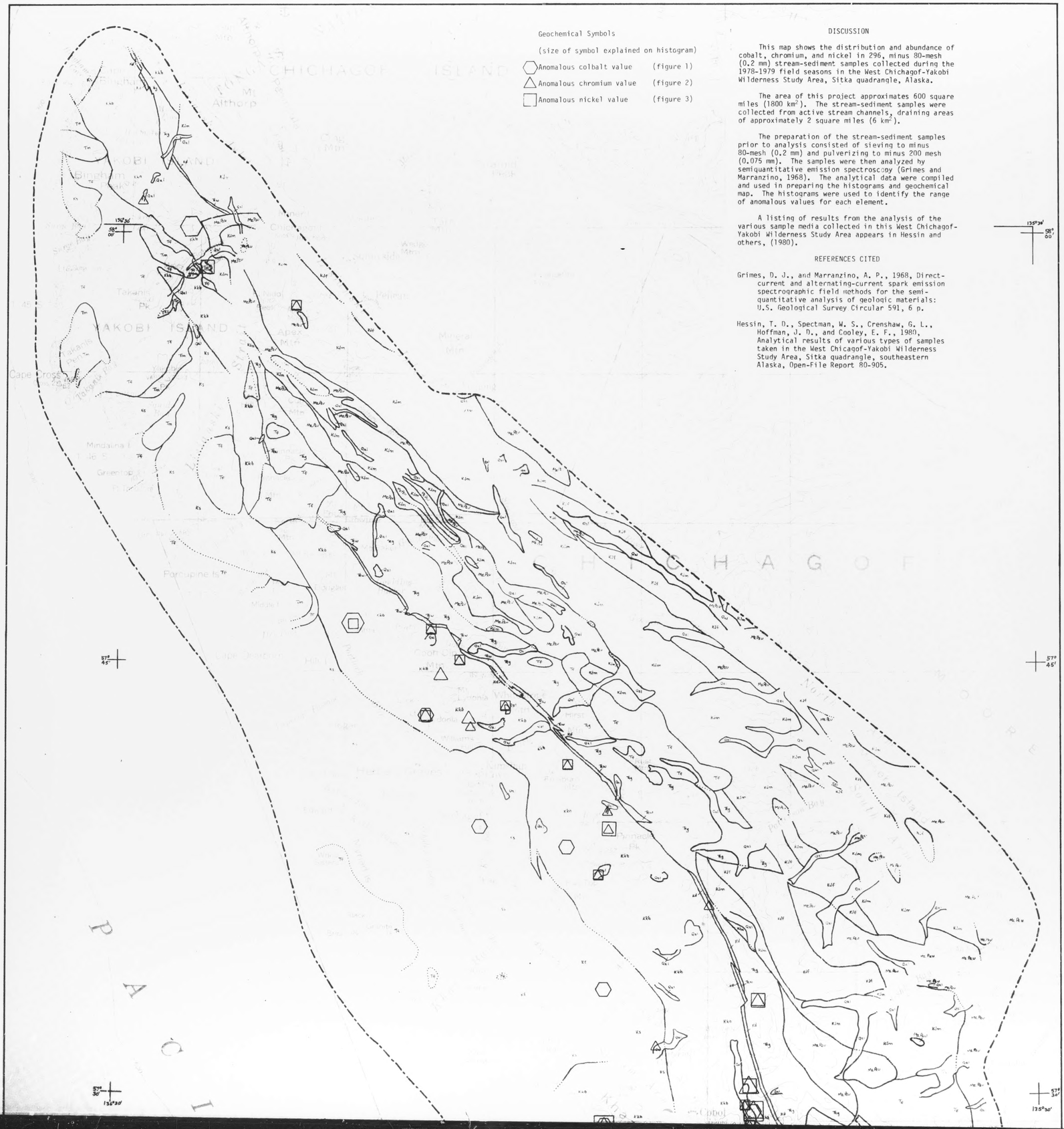
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

OPEN-FILE REPORT
81-27-R



Geochemical Symbols

(size of symbol explained on histogram)

- Anomalous colbalt value (figure 1)
- Anomalous chromium value (figure 2)
- Anomalous nickel value (figure 3)

DISCUSSION

This map shows the distribution and abundance of cobalt, chromium, and nickel in 296, minus 80-mesh (0.2 mm) stream-sediment samples collected during the 1978-1979 field seasons in the West Chichagof-Yakobi Wilderness Study Area, Sitka quadrangle, Alaska.

The area of this project approximates 600 square miles (1800 km^2). The stream-sediment samples were collected from active stream channels, draining areas of approximately 2 square miles (6 km^2).

The preparation of the stream-sediment samples prior to analysis consisted of sieving to minus 80-mesh (0.2 mm) and pulverizing to minus 200 mesh (0.075 mm). The samples were then analyzed by semiquantitative emission spectroscopy (Grimes and Marranzino, 1968). The analytical data were compiled and used in preparing the histograms and geochemical map. The histograms were used to identify the range of anomalous values for each element.

A listing of results from the analysis of the various sample media collected in this West Chichagof-Yakobi Wilderness Study Area appears in Hessin and others, (1980).

REFERENCES CITED

Grimes, D. J., and Marranzino, A. P., 1968, Direct-current and alternating-current spark emission spectrographic field methods for the semi-quantitative analysis of geologic materials: U.S. Geological Survey Circular 591, 6 p.

Hessin, T. D., Spectman, W. S., Crenshaw, G. L., Hoffman, J. D., and Cooley, E. F., 1980, Analytical results of various types of samples taken in the West Chicagof-Yakobi Wilderness Study Area, Sitka quadrangle, southeastern Alaska, Open-File Report 80-905.

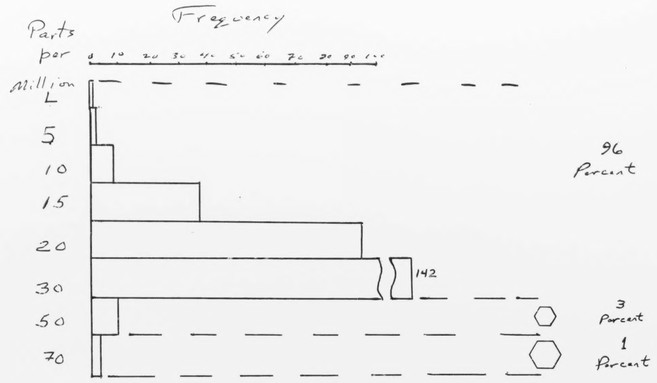


Figure 1.--Histogram showing cobalt in 296, minus 80-mesh (0.2 mm) stream-sediment samples from the West Chichagof-Yakobi Wilderness Study Area. Analysis by optical emission spectroscopy (Grimes and Marranzino, 1968). Hexagons indicate anomalous concentrations and class percentages computed on total sample population.

L, detected but below level of determination

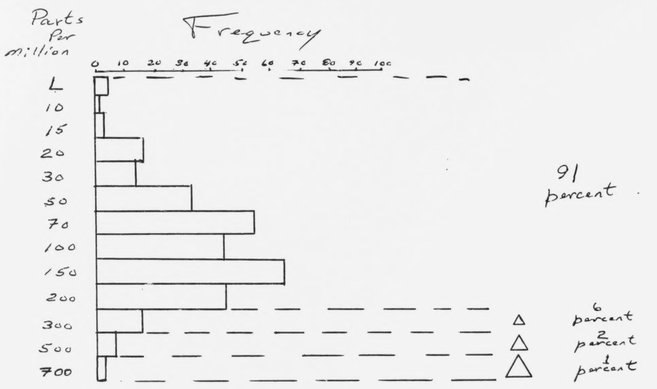


Figure 2.--Histogram showing chromium in 296, minus 80-mesh (0.2 mm) stream-sediments samples from the West Chichagof-Yakobi Wilderness Study Area. Analysis by optical emission spectroscopy (Grimes and Marranzino, 1968). Triangles indicate anomalous concentrations and class percentages computed on total sample population.

L, detected but below level of determination

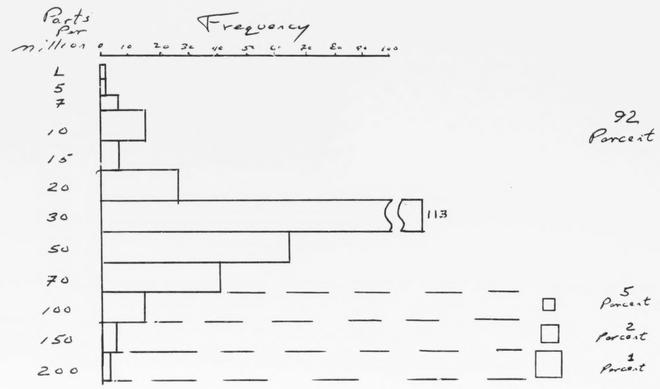
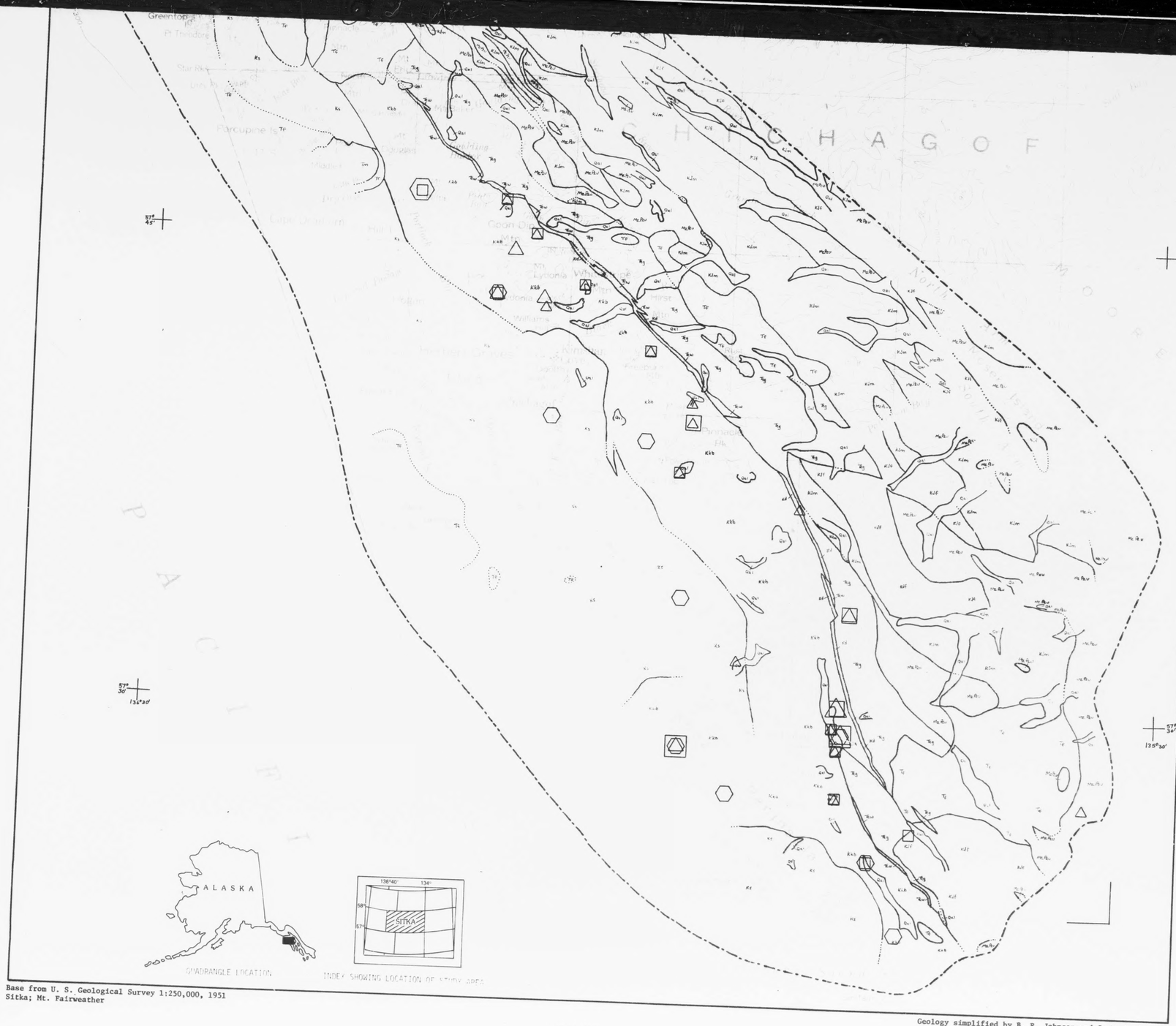


Figure 3.--Histogram showing nickel in 296, minus 80-mesh (0.2 mm) stream-sediment samples from the West Chichagof-Yakobi Study Area. Analysis by optical emission spectroscopy (Grimes and Marranzino, 1968). Squares indicate anomalous concentrations and class percentages computed on total sample population.

L, detected but below level of determination

CORRELATION OF MAP UNITS

Qal QUATERNARY



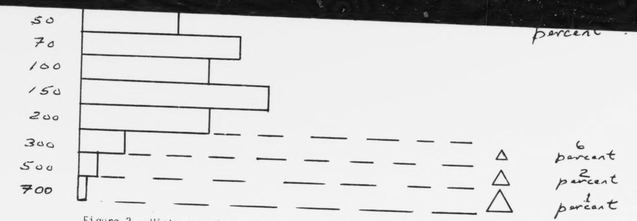
Base from U. S. Geological Survey 1:250,000, 1951
Sitka; Mt. Fairweather

Geology simplified by B. R. Johnson and S. M. Karl, 1981

SCALE 1:125 000

2 0 2 2 4 6 8 MILES

2 0 2 2 4 6 8 KILOMETERS



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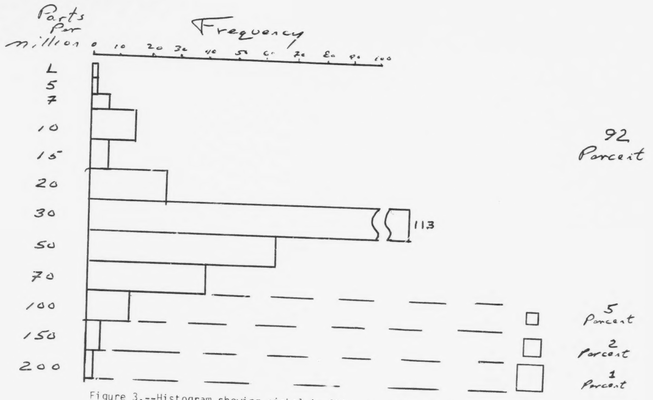

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CORRELATION OF MAP UNITS

Qal	QUATERNARY
Tf, Tm	TERTIARY(?)
Kd, Ks, Kkb	CRETACEOUS(?)
KJf, KJm	CRETACEOUS AND JURASSIC
Trw, Trg	TRIASSIC(?)
MzPzu	MESOZOIC AND PALEOZOIC(?)

LIST OF MAP UNITS

Qal	ALLUVIAL DEPOSITS--Undivided
Tf	FELSIC PLUTONIC ROCKS--Dominantly tonalitic
Tm	MAFIC PLUTONIC ROCKS--Dominantly gabbroic
Kd	DIORITE SILL--Extensively altered
Ks	SITKA GRAYWACKE
Kkb	KELP BAY GROUP--Metasediments and metavolcanics
KJf	FELSIC PLUTONIC ROCKS--Dominantly granodiorite
KJm	MAFIC PLUTONIC ROCKS--Dominantly quartz diorite, diorite, and gabbro
Trw	WHITESTRIPE MARBLE
Trg	COON DIP GREENSTONE
MzPzu	UNDIVIDED METASEDIMENTARY--Metavolcanic and metaplutonic rocks

GEOCHEMICAL MAP SHOWING THE DISTRIBUTION AND ABUNDANCE OF COBALT, CHROMIUM AND NICKEL IN STREAM-SEDIMENT SAMPLES IN THE WEST CHICHAGOF-YAKOBI WILDERNESS STUDY AREA, SITKA QUADRANGLE, ALASKA

By

T. D. Hessin, J. D. Hoffman

1981

Studies Related to Wilderness

The Wilderness Act (Public Law 88-577, Sept. 3, 1964) and related Acts require the U.S. Geological Survey to survey certain areas on Federal lands to determine their mineral resource potential. Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a geochemical survey of the West Chicagof-Yakobi Wilderness Study Area, Sitka quadrangle, southeastern Alaska.